NITROGEN REQUIREMENTS OF SUMMERFALLOW SEEDED CROPS

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Thirteen strip tests were laid down in which ammonium nitrate was broadcast to supply 20, 30, 40 and 60 lb/acre of N. The N supplied was in addition to that contained in the monoammonium phosphate (11-48-0) which was applied to the entire test area at the rate recommended on the basis of the phosphorus soil test. Field selection was based on samples submitted to the soil testing laboratory in the fall of 1967. Soil sampling of the trial area in the spring of 1968 showed some fairly wide divergences between fall-field and spring-trial area values.

The response patterns for the most part correlated quite well with the spring soil test values. Excellent responses were obtained on soils testing low and very low in N. The rate of maximum profit was 40 lb N/acre in addition to that supplied by the 11-48-0. In conclusion, it could be stated that the current soil test benchmarks for the N requirements of summerfallow seeded crops are relatively sound.

TABLE 1. Nitrogen requirements of wheat seeded on summerfallow land (Yields in bu/acre)

	11-48-0* Yield	Yield Increase over 11-48-0			
		34-0-0 @ 60 lb/acre	90	120	180
Very low and low** nitrogen tests (3 trials)	19.7	3.6	5.0	8.2	8.6
High and very high nitrogen tests (4 trials)	30.7	2.1	6.1	3.1	5.9
Nitrogen tests 70 lb/acre and greater (5 trials)	31.0	1.8	4.4	1.1	3.7

*11-48-0 was applied to the entire plot area at the rate recommended on the basis of the phosphorus soil test.

**Ratings from Sept./68 soil test benchmarks for summerfallow seeded crops.